# Next Generation eCall

## Challenges and plans for PSAP upgrades

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# What is EENA?

**The European Emergency Number Association (EENA)**

Discussion platform and best practices sharing for emergency services, public authorities, researchers, solution providers and all other actors of the public safety sector

Brussels-based organisation set up in **1999**

EENA Annual Report (year 2019) can be found here

**OUR MISSION** is to improve the safety and security of the people.

*People informed on time when a disaster occurs*
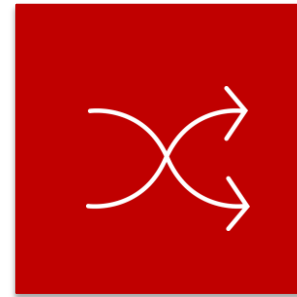
*Emergency vehicles & rescuers arrive on time*

# THREE **PILLARS**



Make knowledge available to all



Facilitate contacts between all actors



Drive change

## eCall over IMS – technical aspects

**Technical changes to (at least)**

- Cars – IVS that can handle 4G/5G instead of/or as well as 2G/3G
- Mobile networks and devices to support emergency calling over IMS
- PSAPs – Ability to receive NG eCalls and process MSD

# Investment required on all sides

# *Legislative changes – specific and general*

**<u>Specific</u> legislative changes to (at least) Delegated Regulations**

- (EU) No 305/2013 (PSAPs) and (EU) 2017/79 (Cars) – **<u>2024 or 2025?</u>**

**<u>Other</u> legislative changes in the pipeline**

- EECC transposed in Member States by December 2020
- EECC Article 109(8) Delegated Acts - *"to ensure the compatibility, interoperability, quality, reliability and continuity of emergency communications in the Union"*
  - Location, access for persons with disabilities, routing to most appropriate PSAP
  - Focus on accommodating roamers and eliminating divergence across Europe
  - First delegated act - **<u>by 21 December 2022</u>**
- European Accessibility Act (2019/882/EC) – some measures related to emergency access – Transposition by June 2022 – Measures implemented by **<u>June 2025</u>**

## *Macro-environment trends*

- **The past** - access to emergency services mainly by circuit-switched voice communications (including eCall)

- **The present** – although voice still dominates, citizens expect to be able to contact emergency services with technologies they use to communicate every day – messaging apps

- **The future** - Artificial Intelligence (AI), 5G, IoT, and drones – emergency communications initiated by machines

- Mobile networks and fixed networks will be **fully migrated** to IP in the near future

- **Legacy support** needed during migration to IMS, including for eCall

# When should Public Authorities / PSAPs invest?

# *Emergency communications investment – Last decade*

## Predominantly solution/legislation-driven investment decisions

- **Better location**
  - Smartphone Apps – to leverage location capabilities of handsets. Now 100s of country-specific apps across Europe
  - AML – to leverage location and geographic coverage/capability of 2G/3G networks. Some issues related to roaming still be worked on

- **Better access for persons with disabilities**
  - investments in different solutions in different countries around Europe
  - SMS, RTT etc.
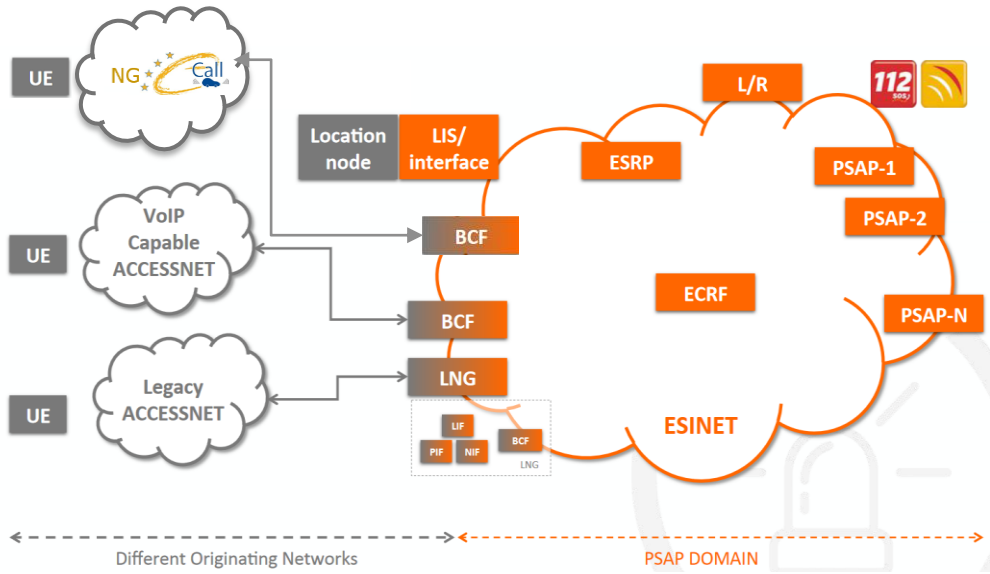  - To meet a legislative requirement – National or European

- **eCall**
  - eCall – better location and the "golden hour principle"
  - Massive effort and investment in PSAPs to handle eCalls and process MSD.

# Siloed approach to investment

# *Emergency communications investment – Next decade*
# *NG112 – Architectural Overview*



**Strategic/holistic approach to investment**

NG112 - An architecture and core components providing a flexible, scalable and future-proofed platform for emergency communications

It would be short-sighted of PSAPs to make investments to handle NG eCall alone.

# NG112 – Introducing the Emergency Services  IP  Network  (ESInet)

- A network of private/managed IP-based networks serving a set of PSAPs, a region, a state, or a set of states.
- Different ways of realising ESInets and you may already be 80% there!
- Provides new capabilities of intelligent routing for new media types and intelligent delivery of them to the most appropriate destination.
- Gateways to the ESInet defined to accommodate emergency communications from different legacy and emerging technologies and route them to the most appropriate PSAP.

- Standardised (ETSI TS 103 479)

- IP-based

- Multi-media support

- Greater control of routing in the PSAP Domain

- Synergies

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# NG 112 – 7-step Implementation – "Inside-Out Approach"

- Set up multi-stakeholder task force at the national level
- Identify and resolve non-technical barriers to NG112 implementation

1. Strategic plan
2. Infrastructure – ESInet
3. Core services
4. PSAP Enablement
5. Provide access for services (apps, IoT, VoIP)
6. Mobile operators and OS enablement (VoLTE, NG eCall)
7. European Interconnection/Interoperability
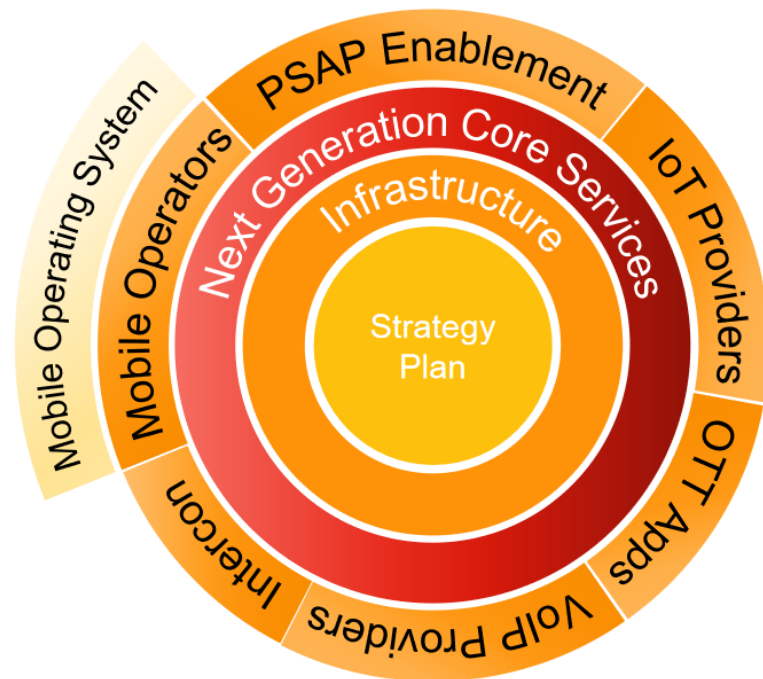
# *Conclusions*

- Now is the time to deploy NG112 – It will include all the elements necessary for NG eCall

- NG112-by-design – consider NG112 in all of today's investment decisions and avoid reactionary or siloed design and deployment of solutions including for NG eCall

- NG112 will resolve issues of roaming, divergence and access for end-users with disabilities

- Think about ESInet realisation – Identify and resolve non-technical barriers and adopt approach that best suits you in terms of organisation,  investment, partnership/collaboration and future operation

- Once deployed, NG112 will provide a foundation for future innovation in emergency communications

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# NG112: FROM THEORY TO REALITY

https://eena.org/events/eena-events/ng112-from-theory-to-reality/

## Thank you!

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